

2010

Would you like staff from the National Aquarium of New Zealand to assist you and your class with the 'Rocky Shore' study free of charge?

We can meet you at the National Aquarium sign near the playground in Hardinge Road in Napier, and help with identification and conservation of our beach residents.

You can download the Rocky Shore unit plan from the National Aquarium website www.nationalaquarium.co.nz with pre and post activities for your study.

If you wish you can visit the National Aquarium for follow up activities either on the same day, or at a later date [normal schools' rates apply.]

On booking you will receive a list of resources to bring with you, and some hints on safety and conservation issues.

Check with the tide chart below as to when your visit would be most suitable.

Booking form enclosed or contact:

Education Officer Carol Larson
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Fax 06 833 7631
Email carol@nationalaquarium.co.nz

Rocky Shore study

The Rocky Shore

Rocky shores are unique and special marine habitats. They support a huge diversity of life; examples of almost every animal group can be found here. Life on the rocky shore is not easy; with the rise and fall of the tide the animals and plants are exposed to the air, and then covered by water again. Each time the tide goes out it leaves behind a layer of food on the rocks. On its return, the sea is rich with millions of tiny plants and animals (plankton) feeding the larger animals of the rocky shore. Salinity, water, wave action, competition and predation are all factors affecting survival chances on the rocky shore.

All exhibits in our rocky shore come from Hawke Bay, many donated by professional and recreational fishers. (Hawke Bay is the marine area; Hawke's Bay is the land.)



Anemone



Glass shrimp



Hermit crab

Sea Anemone

These have nerve fibres, which co-ordinate contractions of their muscles but they have no brain or nerve cords. They eat solid food and can walk slowly on the foot of the stem that anchors them securely to a rock.



Sea Egg

(Sea Urchin)
Evechinus chloroticus

The sea egg, or kina, is a popular food of Maori people. Among its long, brittle spines are blood-red, flexible tube feet that are used to grip the surface.



Nudibranch

(Sea Slug)
Glossodoris amoena
 Size: 58mm

White with orange spots. Found around rock pools along our coasts.



Seven-Armed Starfish

Astrostele scabra
 Size: up to 50cm

Like most starfish, if an arm is lost it has the ability to grow a replacement from the stump. New Zealand's largest and most voracious starfish. Blueish-grey with brilliant orange tube feet.



Cushion Star

Patriella regularis
 Size: to about 10 cm

Shaped and coloured like a fancy biscuit. Common on sandy beaches south of Napier.



Paua

Haliotis iris
 Size: up to 28cm

The inside flesh is a delicacy. The shell has a curved row of holes on the outside, the interior is used to make jewellery. Paua live on rocks but it is illegal to take Paua of less than 125 mm.



Paddle Crab

Ovalipes catharus
 Size: about 15 cm

Common on sandy beaches and burrow backwards into sand, leaving their eyes protruding. Eats shellfish and pipi.



Hermit Crab

Maori: *Papaka moke*

Will inhabit an empty spiral shell as a temporary home until it outgrows the shell and seeks a new one.



Crayfish

Maori: *Koura papatea*

Colour varies between red, purple or orange but turns red when cooked for eating. A second species, the Packhorse (*Jasus hugelii*) is greener in colour and less spiny. Omnivorous and scavengers. Female carries eggs beneath her tail. Larvae are pelagic, associating them with open water or ocean.



Packhorse Crayfish

Mussel

Maori: *Kuku*

Perna canaliculus

Perna canaliculus is a large greenish mussel found abundantly in the North Island. In the South Island the common species is the small bluish-black *Mytilus aoteanus*.



Low Tide Times 2010 HARDINGE ROAD, NAPIER

Two hours ahead and one hour after low tide times are good viewing times for Rocky Shore study.

Month	Day	Date	Time
February	Wed	10th	949
	Thurs	11th	1039
	Fri	12th	1128
	Mon	15th	1344
	Tues	16th	1426
March	Wed	17th	1507
	Fri	26th	954
	Mon	1st	1249
	Tues	2nd	1346
	Wed	3rd	1442

Month	Day	Date	Time
April	Thurs	11th	916
	Fri	12th	1005
	Mon	15th	1224
	Tues	16th	1307
	Wed	17th	1350
May	Thurs	18th	1432
	Mon	29th	1129
	Tues	30th	1227
	Wed	31st	1323
	Thurs	1st	1418
June	Mon	19th	1514
	Tues	27th	1008
	Wed	28th	1104
	Thurs	29th	1159
	Fri	30th	1252
July	Wed	12th	1003
	Thurs	13th	1049
	Fri	14th	1135
	Mon	17th	1401
	Tues	18th	1452
August	Wed	26th	948
	Thurs	27th	1043
	Fri	28th	1136
	Mon	31st	1404
	Tues	1st	1450
September	Fri	11th	1012
	Mon	14th	1245
	Tues	15th	1338
	Wed	16th	1432
	Thurs	24th	929
October	Fri	25th	1022
	Mon	28th	1249
	Tues	29th	1334
	Wed	30th	1418

BACKGROUND PICTURE IS PAGES 16-17 IN NATIONAL AQUARIUM OF NEW ZEALAND PUBLICATION, AVAILABLE FROM THE AQUARIUM